

Serial No. 10/698,040 filed October 30, 2003
Amendment dated February 1, 2008
in Response to Office Action of August 1, 2007

RECEIVED
CENTRAL FAX CENTER

FEB 01 2008

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A ~~method~~ machine comprising:

a computing device for determining a computer-implemented method for use in
determination of implied volatility in options pricing, said method comprising the wherein said
device determines the implied volatility by division of the period until option expiration into sub-
periods and possible underlying asset price values, and by calculation of a node vega, said node
vega being the exact derivative of the option price with respect to the volatility in at the end of
at least one of said subperiods and at one or more of said underlying asset price values.
2. (Currently Amended) A ~~method~~ machine as claimed in claim 1, wherein said node vega is
calculated at the end of a plurality of said subperiods.
3. (Currently Amended) A ~~method~~ machine as claimed in claim 1, wherein said ~~method~~
machine is used for calculation of calculates implied volatility for American options.
4. (Currently Amended) A ~~method~~ machine as claimed in claim 1, wherein said ~~method~~
calculation is conducted using a Cox-Ross-Rubinstein (CRR) binomial tree.

Serial No. 10/698,040 filed October 30, 2003
 Amendment dated February 1, 2008
 in Response to Office Action of August 1, 2007

5. (Currently Amended) A method machine comprising:

a computing device for determining a computer-implemented method for use in
determination of implied volatility in options pricing, said method comprising the wherein said
device determines the implied volatility by division of the period until option expiration into sub-
 periods, and calculation of a node vega, said node vega being the exact derivative of the option
 price with respect to the volatility in at least one of said subperiods, said node vega being
 calculated using Equation (5) the following equation:

$$V_i = \left(\frac{1}{R} \right) \times \left[p V_{i+1}^{up} + (1-p) V_{i+1}^{down} + \left(C_{i+1}^{up} - C_{i+1}^{down} \right) \frac{\partial p}{\partial \sigma} \right]$$

-
6. (Currently Amended) A method machine as claimed in claim 5, wherein said node vega is
 calculated at the end of a plurality of said subperiods.
7. (Currently Amended) A method machine as claimed in claim 5, wherein said method
machine is used for calculation of calculates implied volatility for American options.
8. (Currently Amended) A method machine as claimed in claim 5, wherein said method
calculation is conducted using a Cox-Ross-Rubinstein (CRR) binomial tree.